

**Assessment of Needs, Causes and Perception of Women after Stillbirth****Prabh Simranpal<sup>1</sup>, Anju<sup>2</sup>, Ashishjot Kaur<sup>3</sup>, Satinder Pal Kaur<sup>4</sup>, Tarvinderjit Khurana<sup>5</sup>, Rajat Gupta<sup>6</sup>, Parneet Kaur<sup>7</sup>**<sup>1</sup>Intern, Government Medical College, Patiala<sup>2</sup>Associate Professor, Department of Obstetrics and Gynaecology, Government Medical College, Patiala<sup>3</sup>Intern, Government Medical College, Patiala<sup>4</sup>Associate Professor, Department of Obstetrics and Gynaecology, Government Medical College, Patiala.<sup>5</sup>Associate Professor, Department of Medicine, Adesh Medical College and Hospital, Shahbad, Haryana<sup>6</sup>Intern, Government Medical College, Patiala<sup>7</sup>Professor and Head, Department of Obstetrics and Gynaecology, Government Medical College, Patiala

Received: 17-09-2023 / Revised: 13-10-2023 / Accepted: 23-11-2023

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Conflict of interest: Nil

**Abstract****Aim:** We aim to evaluate the stillbirth rate, the main leading factors, its emotional impact on families, and the needs of mothers after the baby's demise.**Design:** It is a prospective cohort study that was conducted in the Inpatient wards of the Obstetrics and Gynaecology department of Rajindra Hospital, Patiala (a tertiary healthcare institute).**Materials and methods:** A total of 100 mothers who had stillbirths willingly participated and were surveyed through a questionnaire, centered around World Health Organisation and EPDS standards, following informed consent. Appropriate percentages were calculated for the various categories of our study.**Results:** The stillbirth rate in our study came out to be 63.4/1000 births. Congenital abnormality and FGR were the most frequent fetal factors linked to stillbirth. Placental conditions like previa and abruption were found in 31% of the cases in our study. 97% of parents went through several stages of grief and bereavement following the loss of their baby. A large number of mothers denied to preserve memories like footprints, hand prints, and locks of hairs and were not interested in going for an autopsy (73%) or dried blood spot testing (89%) in our study. A big share of mothers of the deceased baby were worried about future pregnancy (87%) and future childbirth (93%).  
**Conclusion:** Interventions for inter-conception counseling should be undertaken to provide couples with crucial knowledge to enhance pregnancy outcomes, identify fears, assess genetic risk, ease bereavement, and examine attachment and parenting issues.**Keywords:** Stillbirth, fetal death, preconception counseling, the psychological impact

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**Introduction**

Stillbirth is defined as a baby born with no signs of life after 22 weeks of gestation and there are around 2- 7 million stillbirths worldwide. Fetal mortality is considered a major health issue which is divided into categories; early - less than 20 complete weeks, intermediate - 20 to 22 weeks, and late - more than 28 weeks [1] It is not just a term or definition it involves a whole spectrum of thoughts from vacuum to the outburst of emotions from what, when, why to what next.

Globally, India has been ranked first in the absolute number of stillbirths as shown by the central sample registration system (SRS). India has estimated stillbirths to be 5 per 1000 total births in 2013 though it is as high as 12.52 to 26.48 per 1000 live births as per Indian data (GOI) and sustainable development goals (SDG) aims to bring it down to a single digit by 2025. [2]

As for the query of why stillbirth happened, these causes are divided into 3 main categories; probable, possible and unknown, and only probable and possible causes are identified in 76% of cases. [1-4] Causes vary from diabetic embryopathy to poor glycemic control in overt diabetic patients to hypertensive disease of pregnancy, fetal growth restriction, fetal infections, congenital malformation, umbilical cord abnormalities, and obstetric complications like abruption, PROM, etc.

Fetal death is psychologically traumatic for a woman and her family. They are more prone to anxiety, depression, self-pity, blame, going towards loss, and so on. [9] Some parents develop mental health problems, and some don't.

Nuzum et al 2018 studied the impact of stillbirth on bereaved parents in Ireland and found out that stillbirth had a profound impact on bereaved parents

in the form of devastating sadness and loss of hope, struggling to find hope against hopelessness. It is difficult to accept the fact of losing a baby for whom they had plans to name, bring up, school, nurture, and have a life with him/her. They wanted to treat their stillborn baby as a real baby with a unique identity, name their baby, click photos, and arrange burial for them. [5,6]

Bartella and Aerde in 2002 studied the grieving process of a mother and family experiencing the death of a baby and offered suggestions to healthcare workers to achieve optimal grief resolution. Different interventions for specific support for stillbirth are lacking in the Indian system. [10] So this study was conceptualized to study the needs and perceptions of grieving mothers over diseased children so that appropriate interventions according to their setting/cultural group could be gained.

### Materials and Methods

This was a prospective study conducted in the Department of OBGYN, Government Medical College, and Rajindra Hospital, Patiala. All mothers who consented and have had stillbirth were

interviewed as per the questionnaire and in total of 100 mothers were included. The epidemiological data were collected and inference drawn as per the questionnaire was analyzed. The causes attributable to stillbirth were analyzed, along with the type of stillbirth, period of gestation, type and mode of delivery, and events related to stillbirth. Mothers' perceptions and future needs arising from the demise of a newborn were also analyzed. Permission from the ethical committee of the institute was taken.

### Aims and objectives:

1. Incidence of stillbirth and risk factors associated with stillbirths in our institute.
2. To analyze the psychological effect of stillbirth on mothers.
3. To assess the needs of mothers.

### Results

There were a total of 2426 births in six months study period and 154 stillbirths. The stillbirth rate came out to be 63.47 PER 1000 births. Only 100 mothers agreed to participate in the study.

**Table 1: Demographic Information**

Demographic Information		Patients (N=100)	Percentage
Age Group (Years)	<20	7	7%
	21-25	36	36%
	26-30	37	37%
	≥31	20	20%
Residence	Rural	62	62%
	Urban	38	38%
Socioeconomic Status	Low Income	78	78%
	Middle Income	21	21%
	High Income	36	36%
Education Qualification	<10 <sup>th</sup>	49	49%
	Matriculation	29	29%
	12 <sup>th</sup>	13	13%
	Graduation	7	7%
	Postgraduation	2	2%
Occupation	Housewife	90	90%
	Working	10	10%

In our study, 37% of women were in the age group of 26 to 50 years, 36% in 21 to 25 years, 20% were more than 31-year-old and over 7% were less than 20-year-old. 62% were from rural areas, 78% were from lower income and 21% were from middle-income groups.

**Table 2: Obstetric history, Previous History of abortions and stillbirths.**

		Patients (N=100)	Percentage
Previous History of Abortion	Yes	57	57%
	No	43	43%
Previous History of Still Birth	Yes	24	24%
	No	76	76%
Parity	Primigravida	29	29%
	G2-G4	61	61%
	≥G5	10	10%
Antenatal Care	Yes	87	87%
	No	13	13%
Need for High-Risk Care	Yes	73	73%
	No	27	27%

In our study only 29% of the patients were primigravida, 87% reportedly had antenatal care and 73% needed high-risk care. 57% had a previous history of abortion and 24% had a prior history of stillbirths.

**Table 3: main causes leading to stillbirth**

Birth Details of Stillborn Baby		Patients (N=100)	Percentage	$\chi^2$	p value
Placenta Conditions	Abruptio Placenta	19	19%	28.26	0.001
	Placenta Previa	13	13%		
	No Abnormalities	68	68%		
Cord Conditions	Cord Accidents	8	8%	19.33	0.001
	Cord Prolapse	5	5%		
	Knot Formation	8	8%		
	No Abnormalities	79	79%		
Maternal Condition	Diabetic	3	3%	5.36	0.021
	Hypertension	10	10%		
	Thyroid	9	9%		
	Any Other	4	4%		
Labour Events	No Abnormalities	74	74%	0.17	0.683
	Obstructed Labour	24	24%		
	Chorioamnionitis	2	2%		
	PROM	20	20%		
	Ruptured Uterus	1	1%		
	Normal Labour	53	53%		
Fetal Condition	Febrile (Infection)	0	0%	18.29	0.001
	Fetal Growth Restriction (FGR)	8	8%		
	Fetal Defect	10	10%		
	Fetal Disorder	4	4%		
Period of Gestation	No Abnormalities	78	78%	42.25	0.001
	Preterm	83	83%		
	Term	17	17%		

Placental condition in 19% (13% abruption placenta), cord accidents in 8%, cord prolapse in 5% and true knot formation in 8% were the main causes in our study for stillbirth. Yet, maternal diabetes, hypertension, thyroid disorder and other medical conditions contributed 3%, 10%, 9%, and 4%

respectively towards stillbirths whereas FGR, and fetal defects contributed 8% and 10%, respectively. Prematurity was the single most important contributor to stillbirths (83%), which was found statistically significant.

**Table 4: Information On Stillbirth**

Birth Details of Stillborn Babies		Patients (N=100)	Percentage
Type of Stillbirth	Macerated	46	46
	Fresh	54	54
Gender of Baby	Female	37	37
	Male	63	63
Type of Delivery	Spontaneous	80	80
	Induced	20	20
Mode of Delivery	Normal Vaginal	82	82
	C-Section	18	18
Knowledge of Baby's demise Before Delivery	Yes	57	57
	No	43	43
Information Provided by	Obstetrician	54	54
	Family Member	43	43
	Radiologist	3	3
Was IEC provided by obstetrician	Yes	93	93
	No	7	7
Patient Satisfaction about the way IEC was given	Satisfied	43	43
	Unsatisfied	57	57

57% of mothers knew about interview and demise of the baby. Amongst them, 54% were informed by obstetricians, and the rest 43%, and 3% by family members and radiologists respectively. In 93% of

cases, obstetricians provided information education and counseling (IEC) out of which only 43% of mothers were satisfied with the way IEC was delivered. 46% of stillborn babies were macerated.

63% were males and 37% females. 80% of mothers went into spontaneous labor and the other 20% had

to be induced. 82% of stillborns were delivered vaginally and 18% were delivered by c-section.

**Table 5: Emotional Effect on Parents after Stillbirth**

Effect on Parents after Stillbirth		Patients (N=100)	Percentage
Parental Grief	Yes	97	97%
	No	3	3%
Grief Reaction	Tearful	35	35%
	Self-Blame	18	18%
	Sadness	14	14%
	Mental Trauma	11	11%
	Emptiness	8	8%
	Anxiety	7	7%
	Fear of Bad Events	4	4%
	Remorse	3	3%
Effect of Relationship with Husband	Yes	25	25%
	No	75	75%
Rejection by Family	Yes	39	39%
	No	61	61%
Support from family	Yes	63	63%
	No	37	37%

97% had feelings of grief, 35% were tearful, 18% blamed themselves, 3% were in remorse, 25% women felt the effect on their relationship with husband and 39% faced rejection by family. Families of 63% were supportive of the female following the baby's demise.

**Table 6: Mothers' feelings to stillborn baby**

		Patients (N=100)	Percentage
Desire to see the baby	Have Seen the Baby	25	25%
	Want to See the Baby	27	27%
	Not Seen the Baby	48	48%
Desire to hold baby	Held baby	16	16%
	Not held	84	84%
Who Motivated	By Choice	13	81.25%
	By Relatives	1	6.25%
	Obstetrician	2	12.50%
Experience of Holding Baby	Sad	6	37.50%
	Calming	4	25%
	Unpleasant	3	18.75%
	Upsetting	3	18.75%
Worried about Future Conception	Yes	87	87%
	No	10	10%
	Don't Know	3	3%
Worried about future Child Birth	Yes	93	93%
	No	7	7%
Want to Wrap/Kiss Baby	Yes	68	68%
	No	32	32%
Want to Take Pictures	Yes	69	69%
	No	31	31%
Want Footprints	Yes	33	33%
	No	67	67%
Want Handprints	Yes	32	32%
	No	68	68%
Want Locks of Hair	Yes	13	13%
	No	87	87%
Want an Autopsy	Yes	27	27%
	No	73	73%
Dried Blood Spot	Yes	11	11%
	No	89	89%

48% of mothers did not see the baby, 27% wanted to see the baby and 25% saw the baby. Only 16% of mothers held the baby out of which 37.5% felt sad, 18.75% found it upsetting and unpleasant and 25% had a calming effect. 68% wanted to wrap and kiss the baby, 69% wanted to take pictures although 67% and 68% refused to take handprints and footprints respectively. 87% refused locks of hair, 73% denied autopsy and 89% refused dried blood spot testing. 87% of couples were worried about future conception and 93% about future childbirth.

### Discussion

The quality of antenatal and perinatal care given to expectant mothers is mostly reflected in the stillbirth rates of the regional healthcare system in a country. Stillbirth directly impacts the psychology of parents as they frequently continue to endure varied

psychiatric problems for a long period after their baby's death.

**Rate:** The stillbirth rate in our tertiary care setting institute RHP, Punjab, located in north India, came out to be 63.4/1000 births. In India, an average of 22.9 per 1000 birth rate of stillbirth has been reported. [11] In Maharashtra, stillbirth was 40 per 1000 births [12], 16 per 1000 births in Chandigarh [14], and an average of 10 per 1000 total births in central India (Bihar, Jharkhand, UP, Rajasthan, Assam, Uttarakhand, Madhya Pradesh, Chattisgarh, Odisha) [13]. Hence, the rates can vary from 20-66 per 1000 births [12]. This highly depends upon the healthcare facilities of that region and the extent of the community's knowledge. In our institute, the stillbirth rate is high because most cases were referred to IUD for tertiary care.

**Table 7: Stillbirth rate**

Junu Shrestha et al [12]	40/1000 total birth
Altijani N, Carson C, Choudhury SS, et al [13]	10/1000
Newtonraj, A., Kaur, M., Gupta, M. et al [14]	16/1000
present study	63.4/1000

**Causes:** In our study, as per Table 3, causes of stillbirth are placental, fetal, maternal medical conditions in addition to prematurity as is evident from other studies as well. Early interventions for antenatal care have shown better pregnancy outcomes in mothers with DM, HTN, thyroid [5,14]. Like other studies, our study found an association between the male gender with stillbirths (63% of males and 37% of females were stillborn). Iran Hadar suggested male fetuses had a higher rate of intrauterine death from placental abruption than female counterparts. Similar studies have also found major loss of male babies in stillbirths in both developing and developed countries, but the reasons cited in such studies are variable. [7,9, 14]

Prematurity was the single most important contributor to stillbirths in our study which was consistent with other studies (Table 3). [12,14] Congenital abnormality and FGR are the most frequent fetal factors linked to stillbirth. Both are known risk factors for stillbirths, according to various researchers. FGR has a connection to fetal congenital and genetic abnormalities and other maternal comorbidities that can change the risk of stillbirth. [3,9,12,15] Placental conditions like previa and abruption were found in 31% of cases in our study. This enhances the chances of stillbirth when linked with preterm fetuses and other maternal comorbidities. [4]

Women from low-income groups, rural areas, unemployed, and with an education of less than 10 standards had the biggest share in giving birth to stillborn babies (table 1). This highly pertains to less affordability, lower family support, and decreased

awareness of healthcare facilities due to poor education and poor sanitation and transportation services in rural areas. [9]

Our study showed 87% of expectant mothers with ANC care ended up in stillbirth. Communication barriers during antenatal visits, the non-compliance attitude of mothers, incomplete follow-ups, delay in diagnosis of high-risk pregnancy, or intervention required in these cases might explain these results. In our study, patients with previous stillbirths (24%) and with previous abortions (57%) had stillbirths which emphasize the need for preconception counseling (Table 2). [15]

**Psychological Impact** - Grieving process after perinatal loss can be difficult and an emotional journey. Ninety-seven (97%) parents went through several stages of grief and bereavement following the loss of their loved one. The grief reaction of parents seen in our study has been distinct varying from simple anxiety to mental trauma/ psychosis which is consistent with various studies. [6-10] Our study has found a number of mothers who experienced detachment from partners (25%), disorganization of relationships with other children, and even permanent losses of relationship with family/spouse (39%), similar findings are suggested by other studies as well. [6-10] Additionally, Mothers who suffer discordant grief report feeling more alienated and are reluctant to share feelings with their spouses. [8] Furthermore, as a result of the baby's unnatural death, some parents might regard this as their inability to safeguard their baby and this heavily impacts the siblings, upbringing in a number of ways. [9] It is advisable for healthcare

professionals to become more sensitive to the effects of perinatal loss and explore various options to support the parents and families of the deceased to the fullest. Interventions like bereavement counseling exploring fears and thought processes of parents/families related to baby demise and future conception, persuading couples to seek and accept assistance from family /friends /coworkers and medical personnel (especially by nurses) and supporting them in grieving process by facilitating open communication can help prevent disruption of connection among family members and spouses. [6-15] In communities of developing countries, it is seen that parents usually don't want to contact/see their baby after their death, as seen in our study. Moreover, the experience of holding the baby was not much calm and soothing, in fact, it made the situation worse as was seen in similar studies. [16]

A large number of mothers denied preserving memories like footprints, hand prints, and locks of hair in our study. Upon questioning they felt it to be a triggering factor for exacerbating their anxiety and depression during the grieving process. Therefore; our results contradict practice standards which support that failure to see and hold deceased children may negatively impact parents' ability to heal. Recommendations made in guidelines for parental contact and memory need to be more detailed with a special focus on developing regions of the world. [17]

A big share of mothers of the deceased baby were worried about future pregnancy (87%) and future childbirth (93%) and hence, interventions for inter-conception counseling should be undertaken to provide couples with crucial knowledge to enhance pregnancy outcomes, identify fears, assess genetic risk, ease bereavement and examine attachment and parenting issues. [18]

Another absorbing finding in our study is that parents were not interested to go for an autopsy (73%) or dried blood spot testing (89%). A study conducted in New DELHI in LHMC showed that the majority of parents gave consent for an autopsy if performed in the labor room and it helped in reaching an accurate diagnosis in 36.5% of cases upon examination although there were various ethical issues as obstacles. While studies suggest fetal autopsy as an effective tool to reach the cause of death and made available, in cases where a conventional autopsy is denied studies have found an alternative suggestion such as a virtopsy. [19]

### Conclusion

Stillbirths are emotionally and economically traumatic to parents and siblings. Loss due to stillbirth has detrimental effects on not only physical but mental well-being also. So we should always try to ascertain the cause of stillbirth, provide support to the parents emotionally and psychologically, and

allay their fears and anxiety. Pre-conception counseling is a way forward in developing countries that should be part of natal care. The role of autopsy and virtopsy followed by genetic counseling should not be ignored in unexplained stillbirths.

**Limitations:** Larger studies in India are required to investigate the causes and needs of parents with previous stillbirths as ours was a smaller study.

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